

Listing of Claims:

Claim 1 (Currently Amended) An isolated mammalian A polypeptide having the biological enzyme activity of a histidine protein phosphatase which has a high specificity for phosphohistidine specifically dephosphorylates phosphohistidine and has a molecular weight of 13,000-15,000, obtainable by purification from mammalian tissue by at least one anion exchange chromatography, one gel filtration and one affinity chromatograph step 13,000-15,000 Da as determined by SDS electrophoresis.

Claim 2 (Currently Amended) An isolated A polypeptide according to claim 1 comprising at least the amino acid sequence motif DCECLGGGRISHQSQD (SEQ ID NO:3)

Claim 3 (Currently Amended) An isolated A polypeptide according to claim 1 comprising at least the amino acid sequence motif DCECLGGGRISHQSQDX¹KIHVYGYSMX²YGX³AQH (SEQ ID NO:4) wherein X¹ = K or R, X² = A or G and X³ = P or R.

Claim 4 (Currently Amended) An isolated A polypeptide according to claim 1 comprising at least the amino acid sequence motif YHADIYDKVSGDMQKQGCDCECLGGGRISHQSQDKKIHVYGYSM (SEQ ID NO:5).

Claim 5 (Currently Amended) An isolated mammalian A polypeptide having the biological enzyme activity of a histidine protein phosphatase which has a high specificity for phosphohistidine and a molecular weight of 13,000-15,000 specifically dephosphorylates phosphohistidine and has a molecular weight of 13,000-15,000 Da as determined by SDS

electrophoresis, comprising the following amino acid sequence:

(M) AVADLALIPDVIDSDGVFKYVLIRVHSAPRSGAPAAESKEIVRGYKWA EYH
ADIYDKVSGDMQKQGCDCCLGGGRISHQSQDKKIHVYGYSMAYGPAQHAISTEK
IKAKYPDYEVTWANDGY (SEQ ID NO:2).

Claim 6 (Currently Amended) An isolated A polypeptide having the biological
enzyme activity of a histidine protein phosphatase which has a high specificity for specifically
dephosphorylates phosphohistidine and has a molecular weight of 13,000-15,000
Da as determined by SDS electrophoresis, the amino acid sequence of which has a homology of
64-99% compared with the amino acid sequence of claim 5 depicted in claim 3.

Claim 7 (Currently Amended) An isolated A polypeptide according to claim 6
comprising the following amino acid sequence:
AAAGLAQIPDVIDSDGVFKVLIRVHAAPPSEAPGGESKDIVRGYKWA EYHAD I
YDKVSGELQKKGHDCECLGGGRISHQSQDRKIHVYGYSMGYGRAQHSVST EKIRA
KYPDYEVTWADDGY (SEQ ID NO:6).

Claim 8 (Currently Amended) A DNA coding for a polypeptide of claim 1.

Claim 9 (Currently Amended) A method of claim 19, where said cDNA comprises
DNA according to claim 8 comprising the nucleotide sequence:
(ATG) GCGGTGGCGGACCTCGCTCTCATTCTGATGTGGACATCGACTCCGACGG
CGTCTTCAAGTATGTGCTGATCCGAGTCCACTCGGCTCCCCCGCTCCGGGGCTCCG
GCTGCAGAGAGCAAGGAGATCGTGCGCGGCTACAAGTGGGCTGAGTACCATGCGG
ACATCTACGACAAAGTGTCGGGCGACATGCAGAAGCAAGGCTGCGACTGTGAGTG
TCTGGGCGGCGGGCGCATCTCCCACCAGAGTCAGGACAAGAAGATTACGTGTAC

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GGCTATTCCATGGCCTATGGTCCTGCCCAGCACGCCATTTCAACTGAGAAAATCA
AAGCCAAGTACCCCGACTACGAGGTCACCTGGGCTAACGACGGCTAC (SEQ ID
NO:1).

Claim 10 (Currently Amended) Pharmaceutical preparation comprising a polypeptide according to claim 1, where appropriate, together with suitable excipients, carriers and other active ingredients.

Claim 11 (Currently Amended) An antibody directed to a polypeptide according to claim 1.

Claim 12 (New) An isolated polypeptide of claim 1, which is purified from mammalian tissues using at least one step of anion exchange chromatography, gel filtration, and affinity chromatography.

Claim 13 (New) An isolated polypeptide comprising, an amino acid sequence for a human histidine protein phosphatase.

Claim 14 (New) An isolated polypeptide of claim 13 comprising, an amino acid sequence for a human histidine protein phosphatase as set forth in SEQ ID NO: 2.

Claim 15 (New) An isolated nucleic acid comprising a nucleotide sequence coding for a human histidine protein phosphatase of claim 13.

Claim 16 (New) An isolated nucleic acid of claim 15 comprising a nucleotide sequence coding for a human histidine protein phosphatase as set forth in SEQ ID NO: 2.

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Claim 17 (New) An isolated nucleic acid of claim 16, wherein the nucleotide sequence coding for a human histidine protein phosphatase is SEQ ID NO: 1.

Claim 18 (New) A method of producing a recombinant mammalian histidine protein phosphatase, comprising:

expressing a cDNA coding for a mammalian histidine protein phosphatase in a cell to produce recombinant mammalian histidine protein phosphatase, and
isolating said recombinant mammalian histidine protein phosphatase.

Claim 19 (New) A method of producing a recombinant human histidine protein phosphatase, comprising:

expressing a cDNA coding for a human histidine protein phosphatase in a cell to produce recombinant human histidine protein phosphatase, and
isolating said recombinant human histidine protein phosphatase.

Claim 20 (New) A method of claim 19, wherein said human histidine protein phosphatase has the amino acid sequence set forth in SEQ ID NO. 2.

Claim 21 (New) An antibody directed to a polypeptide of claim 13.

Claim 22 (New) An antibody directed to a polypeptide of claim 14.